

**Remarks/Arguments:**

Claims 1-4, 11-14, 17-21, and 23-29 are pending, and all are rejected under 35 U.S.C. § 103(a) as obvious over U.S. 6,121,398 ("Wool") in view of U.S. 2,821,456 ("Frederick").

The Office Action states that "The difference between the invention as claimed and Wool et al. is that Wool et al. do not specifically indicate the dimensional requirement of 'an average diameter of 6 microns and length of 8 mm' for the feathers as claimed." The rejection then states that Wool's disclosure of bird feathers would include chicken feathers that are of that size. Applicants submit that the rejection is based on a misunderstanding of the claim terms, particularly regarding the meaning of the term "feather fiber."

The claims recite "feather fiber" and not "feathers," and it is essential to understand that these terms are not synonymous. The term "feathers" does not necessarily refer to feather fiber. For example, the cited Frederick reference includes as "feathers" both "landfowl feathers" and "landfowl feather fibers," as well as crushed feathers and strips of feather barbs. Col. 3, lines 9-13. It is common knowledge that feathers can be quite large, even many centimeters long and/or wide. In contrast, feather fiber consists of very small particles. Applicants include herewith a copy of R. Choudary et al, *Studies on Feather - Cotton Handmade Paper*, International Journal of Material Science Vol 3, Number 2 (2008), pp 151-160 (published after the filing date of the present application). This paper describes studies of Chicken Feather Fiber (CFF) for use in making paper. On page 155, it is stated that "Attempts to make whole feather paper were unsuccessful in the absence of binder. This is attributed to presence of quill particles in the form of globules. However, using CFF resulted in a paper of marginal strength." Thus, the term "feather fiber" relates to a very particular type of feather-based material, one that provides properties not obtained by whole feathers. Wool discloses the use of feathers, but does not suggest that using feather fiber of the claimed physical dimensions would be desirable.

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (MPEP 2112 IV, emphasis in original)

The use of feather fiber of the claimed size does not necessarily flow from the teachings of Wool, and so this feature is neither explicitly nor inherently taught by Wool. Therefore, Wool alone does not support *prima facie* obviousness.

The rejection alleges that it would have been obvious to use chicken feathers as taught by Frederick in Wool's invention. However, the Frederick reference is inadmissible as prior art for purposes of a rejection under 35 U.S.C. § 103(a) because it relates to art that is not analogous to the present invention.

There are two bases for holding prior art analogous for an obviousness determination: 1) art from same field of endeavor regardless of problem addressed, or 2) art from different fields addressing the same problem. *State Contracting & Engineering Corp. v. Condotte America, Inc.*, 68 USPQ2d 1481 (Fed. Cir. 2003) (reversing district court's holding of non-obviousness and remanding because record presents a factual question as to whether the reference is analogous art); *Wang Laboratories, Inc. v. Toshiba Corp.*, 26 USPQ2d 1767 (Fed. Cir. 1993).

The field of endeavor of the present invention is the development of low dielectric constant materials from renewable resources such as soybean oils and animal feathers, such as chicken feathers. These new composites are affordable, natural, bio-based and environmentally friendly materials. The low dielectric constant, mechanical strength and low density of the developed composites are suitable for use in electronic applications. See paragraph [0002]. The problem addressed by the inventor is how to produce low electrical dielectric constant materials with good mechanical strength. See paragraph [0003].

Frederick describes compositions that are not in the same field as the present invention and that do not solve the same problems as the present invention. The field of Frederick's endeavor is fillers for sleeping bags. See Col 1, lines 22-23. The problem that he addresses is how to provide high filling power from readily available chicken feathers, as opposed to using waterfowl downs. See Col 1, line 63 to Col 2, line 3. As is known in the art, "filling power" relates to insulation properties for sleeping bags and the like, with higher filling power indicating better insulation. Therefore, Frederick is neither directed to the same field as the claimed invention nor solves the same problems with which the claimed invention is concerned. Consequently, Frederick, which has been used as a secondary reference in the Office Action, is not analogous art and cannot be used in an obviousness rejection. Thus, the rejection over Wool in view of Frederick is improper and should be withdrawn.

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Applicants submit that the rejection has been overcome for each of the two independent reasons detailed above, and request reconsideration and allowance of the claims. Applicants invite the examiner to contact their undersigned representative, Frank Tise, if it appears that this may expedite examination.

Respectfully submitted,



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Enclosure: R. Choudary et al, *Studies on Feather - Cotton Handmade Paper*, International  
Journal of Material Science Vol 3, Number 2 (2008), pp 151-160

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